

WHAT IS CLAIMED:

1 1. A system for magnetically generating a spherical electromagnetic field comprising:
2 a power supply operably attached to a coil;
3 at least two conducting spheres arranged such that the conducting sphere
4 centers reside on a common plane; and
5 a core area in which ions are located, the core being located between the at
6 least two conducting spheres such that a core center resides on the common plane,
7 wherein the coil is wrapped around at least a portion of one of the conducting
8 spheres such that when the power supply energizes the coil, the coil generates a
9 spherical electromagnetic field surrounding the core area such that ions present within
10 the core area interact in a magnetohydrodynamic fashion with the spherical
11 electromagnetic field.


1 2. The system of claim 1, wherein the at least two conducting spheres are of a uniform size.

1 3. The system of claim 1, wherein the at least two conducting spheres comprise hollow
2 copper spheres, each sphere being filled with a mixture of SiO₂ ceramic and sand.

1 4. The system of claim 1, wherein the at least two conducting spheres comprises sixteen
2 conducting spheres wherein one of the sixteen conducting spheres functions as the core area.

1 5. The system of claim 4, wherein the 16 conducting spheres are retainably arranged in a
2 non-conducting trough.

1 6. The system of claim 5, wherein the trough comprises:
2 an oval arrangement with 5 conducting spheres along each of a pair of straight-
3 line sections and 3 conducting spheres on each of a pair of curved sections;
4 wherein the conducting sphere functioning as the core area is located in a middle
5 position on one of the straight-line sections.

- 1 7. The system of claim 1, wherein the core area comprises a vacuum chamber.
- 1 8. The system of claim 7, wherein the vacuum chamber is fabricated of a borosilicate glass.
- 1 9. The system of claim 1, wherein the coil comprises a hemispheric coil.
- 1 10. The system of claim 1, wherein the power supply comprises a charged capacitor bank.
- 1 11. A system for electrically generating a spherical electromagnetic field comprising:
2 at least one conducting sphere;
3 a power supply operably connected to opposed poles of the conducting sphere by
4 a pair of conductors such that a spherical electromagnetic field is generated over the
5 conducting sphere when the power supply is energized; and
6 ions located within the spherical electromagnetic field that interact in a
7 magnetohydrodynamic manner with the spherical electromagnetic field.
- 1 12. The system of claim 11, comprising a plurality of conducting spheres arranged in a
2 straight-line arrangement with adjacent conducting spheres in adjacent contact such that the
3 conducting sphere centers reside on a common plane and wherein the pair of conductors are
4 placed at opposing ends of the straight-line arrangement.
- 1 13. The system of claim 11, wherein the at least one conducting sphere comprises a hollow,
2 copper sphere.
- 1 14. A system for magnetically generating a spherical electromagnetic field comprising: 
2 a power supply operably attached to a spherical coil, the spherical coil completely
3 surrounding a spherical volume containing a plurality of ions such that energizing the coil
4 causes a spherical electromagnetic field to form about the spherical volume such that the
5 plurality of ions within the spherical volume interact in a magnetohydrodynamic manner
6 with the spherical electromagnetic field.

- 1 15. The system of claim 14, wherein the power supply comprises a charged capacitor bank.
- 1 16. The system of claim 14, wherein the spherical volume comprises a hollow conducting
2 sphere.
- 1 17. The system of claim 16, wherein the hollow conducting sphere is fabricated of copper or
2 copper-alloy.
- 1 18. The system of claim 14, wherein the spherical volume comprises a vacuum chamber.
- 1 19. The system of claim 18, wherein the vacuum chamber is fabricated of a borosilicate
2 glass.